



## Eaton 129608

Eaton SPX Variable frequency drive, 600 V AC, 3-phase, 450 kW, IP00, OLED display, FR11

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<b>PRODUCT NAME</b>	Eaton SPX variable frequency drive
<b>CATALOG NUMBER</b>	129608
<b>PRODUCT LENGTH/DEPTH</b>	1155 mm
<b>PRODUCT HEIGHT</b>	503 mm
<b>PRODUCT WIDTH</b>	709 mm
<b>PRODUCT WEIGHT</b>	350 kg

### CERTIFICATIONS

UL report applies to both US and Canada  
RoHS, ISO 9001  
UL  
Safety: EN 61800-5-1: 2003

UL Category Control No.: NMMS, NMMS2, NMMS7, NMMS8  
IEC/EN61800-5  
CSA Class No.: 3211-06  
CE  
UL 508C  
RCM  
UL File No.: E134360  
IEC/EN61800-3  
Specification for general requirements: IEC/EN 61800-2  
Certified by UL for use in Canada  
CSA-C22.2 No. 14  
CUL  
DNV  
IEC/EN 61800-3



Powering Business Worldwide

<b>PRODUCT CATEGORY</b>	Variable frequency drives
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.

□□□□□	<a href="#">IL04020008Z</a>
□□	<a href="#">eaton-frequency-inverter-spx-dimensions-002.eps</a> <a href="#">eaton-frequency-inverter-spx-dimensions-009.eps</a>

<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>FITTED WITH:</b>	OLED display Internal DC link IGBT inverter PC connection Control unit
<b>CLIMATIC PROOFING</b>	< 95 % relative humidity, no condensation, no corrosion, no dripping water
<b>CONNECTION TO SMARTWIRE-DT</b>	No
<b>OPERATING MODE</b>	Sensorless vector control (SLV) Optional: Vector control with feedback (CLV) U/f control
<b>FRAME SIZE</b>	FR11
<b>ALTITUDE</b>	Max. 1000 m Above 1000 m with 1 % performance reduction per 100 m Max. 3000 m
<b>APPLICATION IN DOMESTIC AND COMMERCIAL AREA PERMITTED</b>	Yes
<b>APPLICATION IN INDUSTRIAL AREA PERMITTED</b>	Yes
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	40 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-10 °C
<b>AMBIENT OPERATING</b>	40 °C

<b>TEMPERATURE AT 150% OVERLOAD - MAX</b>	
<b>AMBIENT OPERATING TEMPERATURE AT 150% OVERLOAD - MIN</b>	-10 °C
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	70 °C
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	-40 °C
<b>MOUNTING POSITION</b>	Vertical
<b>RELATIVE SYMMETRIC NET FREQUENCY TOLERANCE</b>	10 %
<b>RELATIVE SYMMETRIC NET VOLTAGE TOLERANCE</b>	10 %
<b>PROTECTION</b>	Finger and back-of-hand proof, Protection against direct contact (BGV A3, VBG4)
<b>HEAT DISSIPATION DETAILS</b>	Operation (with 150 % overload)
<b>RATED OPERATIONAL POWER AT 690 V, 50 HZ, 3-PHASE</b>	450 kW
<b>RATED OPERATIONAL POWER AT 690 V, 50 HZ, 3-PHASE, 110% OVERLOAD</b>	500 kW
<b>RESOLUTION</b>	0.01 Hz (Frequency resolution, setpoint value)
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	0 W
<b>VOLTAGE RATING - MAX</b>	690 VAC
<b>COMMUNICATION INTERFACE</b>	BACnet/IP, optional PROFIBUS-DP LonWorks, optional CANopen®, optional DeviceNet, optional Modbus-TCP, optional BACnet MS/TP, optional EtherCAT, optional Ethernet IP, optional Modbus-RTU, optional PROFINET, optional
<b>CONVERTER TYPE</b>	U converter
<b>DEGREE OF PROTECTION</b>	IP00 NEMA Other
<b>PROTOCOL</b>	CAN TCP/IP LON

	PROFIBUS Data-Highway DeviceNet Other bus systems
<b>ASSIGNED MOTOR CURRENT IM AT 690 V, 50 HZ, 110% OVERLOAD</b>	491 A
<b>ASSIGNED MOTOR CURRENT IM AT 690 V, 50 HZ, 150% OVERLOAD</b>	446 A
<b>ASSIGNED MOTOR CURRENT IM AT 690 V, 60 HZ, 110% OVERLOAD</b>	411 A
<b>ASSIGNED MOTOR CURRENT IM AT 690 V, 60 HZ, 150% OVERLOAD</b>	358 A
<b>SYSTEM CONFIGURATION TYPE</b>	AC supply systems with earthed center point
<b>ELECTROMAGNETIC COMPATIBILITY</b>	1st and 2nd environments (according to EN 61800-3)
<b>ASSIGNED MOTOR POWER AT 690 V, 60 HZ, 3-PHASE</b>	450 HP
<b>ASSIGNED MOTOR POWER AT 690 V, 60 HZ, 3-PHASE, 110 % OVERLOAD</b>	500 HP
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	11250 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	0 W
<b>FUNCTIONS</b>	4-quadrant operation possible
<b>OUTPUT VOLTAGE (U2)</b>	600 V AC, 3-phase 690 V AC, 3-phase
<b>NUMBER OF INPUTS (ANALOG)</b>	2
<b>NUMBER OF INPUTS (DIGITAL)</b>	6
<b>RADIO INTERFERENCE CLASS</b>	C2, C3: depending on the motor cable length, the connected load, and ambient conditions. External radio interference suppression filters (optional) may be necessary.
<b>NUMBER OF OUTPUTS (DIGITAL)</b>	1

<b>NUMBER OF PHASES (INPUT)</b>	3
<b>NUMBER OF RELAY OUTPUTS</b>	2 (parameterizable, N/O, 8 A (24 V DC) / 8 A (250 V AC) / 0,4 A (125 V DC))
<b>NUMBER OF PHASES (OUTPUT)</b>	3
<b>RATED CONTROL SUPPLY VOLTAGE</b>	10 V DC (Us, max. 10 mA)
<b>RATED CONTROL VOLTAGE (UC)</b>	24 V DC (external, max. 250 mA)
<b>SUPPLY FREQUENCY</b>	50/60 Hz
<b>MAINS VOLTAGE - MAX</b>	690 V
<b>MAINS VOLTAGE - MIN</b>	525 V
<b>NOMINAL OUTPUT CURRENT I2N</b>	502 A
<b>NUMBER OF HW-INTERFACES (INDUSTRIAL ETHERNET)</b>	0
<b>NUMBER OF HW-INTERFACES (OTHER)</b>	1
<b>NUMBER OF HW-INTERFACES (PARALLEL)</b>	0
<b>NUMBER OF HW-INTERFACES (RS-232)</b>	0
<b>NUMBER OF HW-INTERFACES (RS-422)</b>	0
<b>NUMBER OF HW-INTERFACES (RS-485)</b>	1
<b>NUMBER OF HW-INTERFACES (SERIAL TTY)</b>	0
<b>NUMBER OF HW-INTERFACES (USB)</b>	0
<b>NUMBER OF INTERFACES (PROFINET)</b>	0
<b>NUMBER OF OUTPUTS (ANALOG)</b>	1
<b>OUTPUT AT LINEAR LOAD AT RATED OUTPUT VOLTAGE - MAX</b>	450 kW
<b>OUTPUT AT QUADRATIC LOAD AT RATED OUTPUT VOLTAGE - MAX</b>	500 kW
<b>OUTPUT FREQUENCY - MAX</b>	320 Hz
<b>OUTPUT FREQUENCY - MIN</b>	0 Hz
<b>OUTPUT VOLTAGE - MAX</b>	690 V
<b>SUITABLE FOR</b>	Branch circuits, (UL/CSA)

